

MIDHEYEV, V.V., prof.

"Clinical aspects of diseases of the central nervous system" by
by L.IA. Shargorodskii. Sov.med. 22 no.6:154 Jo '58 (MIRA 11:9)
(NERVOUS SYSTEM---DISEASES)
(SHARGORODSKII, L.IA.)

MIKHNEV, V.V.

"Guillain-Barre syndrom" [in French] by R. Coirault, A. Larcon,
P. Davidou. Reviewed by V.V. Mikheev. Zhur.nev. i psikh. 59
no.6:757-758 '59. (MIRA 13:1)
(ENCEPHALOMYELITIS) (COIRAULT, R.) (LARCON, A.) (DAVIDOU, P.)

MIKHAYEV, V.V., prof. (Moskva)

Is the diagnosis arachnoencephalitis justified? Sov.med. 23
no.6:9-13 Je '59. (MIRA 12:9)
(ENCEPHALITIS)
(ARACHNOID dis.)

MIKHEYEV, V.V., prof.

Neural manifestations of rheumatic fever. *Russ. med. zhur.* 40 no. 4:3-6
Jl-Ag '59. (MIRA 13:2)

1. Iz kafedry nervnykh bolezney s psikhiatriyey (zaveduyushchiy -
prof. V.V. Mikheyev) Moskovskogo meditsinskogo stomatologicheskogo
instituta.

(RHEUMATIC FEVER)

MIKHEYEV, Vadim Vladimirovich; VOLGAREVA, N.P., red.; SENCHILO, K.K., tekhn.
red.

[Neurorheumatism] Neirorevmatizm. Moskva, Gos. izd-vo med. lit-ry
Medgiz, 1960. 251 p. (MIRA 14:9)
(RHEUMATIC FEVER) (NERVOUS SYSTEM)

MIKHEYEV, V.V., prof.; VEYN, A.M., kand.med.nauk

Vegetative nervous system. Zdorov'e 6 no.10:9-11 0 '60.

(MIRA 13:9)

(NERVOUS SYSTEM, AUTONOMIC)

MIKHAYEV, V.V., prof. (Moskva)

Cerebrovascular attacks in rheumatism. Sov.med. 24 no.9:33-36
S '60. (MIRA 1981)
(BRAIN—HEMORRHAGE) (RHEUMATIC HEART DISEASE)

MIKHEYEV, V.V., prof.

"Rheumatic encephalitis" by N.B.Man'kovskii. Reviewed by V.V.
Mikheev. Sov.med. 24 no.12:137-138 D '60. (MIRA 14:3)
(ENCEPHALITIS) (RHEUMATIC FEVER)
(MAN'KOVSKII, N.B.)

MIKHEYEV, V.V.; DUKHOVNIKOVA, L.M.; NEVZOROVA, T.A.

Collogen diseases in neurological and psychiatric clinical practice.
Zhur. nevr. i psikh. 60 no.3:257-261 '60. (MIRA 14:5)

1. Nervnaya klinika (zav. kafedroy - prof. V.V.Mikheyev) Moskovskogo
meditsinskogo stomatologicheskogo instituta i psikhiatricheskaya
klinika imeni S.S.Korsakova (zav.kafedroy - prof. Ye.A.Popov) I
Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.
(COLLAGEN DISEASES) (NERVOUS SYSTRM--DISEASES)

MIKHEYEV, V.V.; DUKHOVNIKOVA, L.M.; MOROZOVA, Ye.A.

Capillary and cavernous angiomatosis. Zhur. nerv. psikh. 60
no. 4:440-446 '60. (MLRA 14:4)

1. Klinika nervnykh bolezney (zav. kafedroy - prof. V.V. Mikheyev)
Moskovskogo meditsinskogo stomatologicheskogo instituta.
(ANGIOMATOSIS)

MIKHEYEV, Vadim Vladimirovich, prof.; FEDOROVA, Ye.A., red.;
PETROVA, N.K., tekhn. red.

[Textbook of nervous diseases] Uchebnik nervnykh boleznei. Izd.2.,
dop. i perer. Moskva, Medgiz, 1962. 505 p. (MIRA 15:5)
(NERVOUS SYSTEM--DISEASES)

DAVIDENKOVA-KUL'KOVA, Ye.F., prof.; MIKHEYEV, V.V., prof.; MARKOV, D.A., prof., akademik; PAKOV, A.G., prof.; SAKHAROV, Yu.N., dotsent; FUTER, D.S., prof.; KHEONDKARIAN, O.A., prof.; SHAMBUROV, D.A., prof.; DAVIDENKOV, S.N., prof., otv. red.; BOGOLEPOV, N.K., prof., zam. otv. red.; OSTROVERKHOV, G.Ye., glav. red.; GRASHCHENKOV, N.I., prof., red.; KORYANSKIY, G.P., prof., red.; RAZDOL'SKIY, I.Ya., prof., red.; FILIMONOV, I.N., prof., red.; BARAKHINA, I.L., tekhn. red.

[Multivolume manual on neurology] Mnogotomnoe rukovodstvo po nevrologii. Moskva, Medgiz. Vol.3. Book 1[Infectious and topic diseases of the nervous system] Infektsionnye i toksicheskie bolezni nervnoi sistemy. 1962. 524 p. (MIRA 15:11)

1. Akademiya nauk Belorusskoy SSR (for Markov). 2. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Davidenkov, Grashchenkov, Filimonov). 3. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for RAZdol'skiy).

(NERVOUS SYSTEM—DISEASES)

MIKHEYEV, V.V.

"Neuralgia of the trigeminal nerve and its treatment by
alcoholization" by O.A. Shternberg. Reviewed by V.V. Mikheev.
Zhur. nevr. i psikh. 62 no.2:299 '62. (MIRA 15:6)
(NEURALGIA, TRIGEMINAL) (ALCOHOL—THERAPEUTIC USE)
(SHTERNBERG, O.A.)

MIKHEYEV, V.V., prof., otv. red.; GRASHCHENKOV, N.I., prof., red.;
MEL'NIKOV, S.A., dots., red.; VEYN, A.M., starsh. nauchn.
sotr., kand. med. nauk, red.; IL'INA, N.A., assistant,
kand. med. nauk, red.;

[Periodic and paroxysmal disorders in the neurological
clinic] Periodicheskie i paroksizmal'nye narusheniia v nevro-
logicheskoi klinike. Red. koll.: V.V.Mikheev i dr. Moskva,
1963. 171 p. (MIRA 16:10)

1. Moskovskoye nauchnoye obshchestvo nevropatologov i psi-
khiatrov. 2. Predsedatel' Moskovskogo obshchestva nevropto-
logov i psikiatrov(for Mikheyev). 3. Daystvitel'nyy chlen
AMN SSSR (for Grashchenkov).

(NERVOUS SYSTEM—DISEASES)

BOGOLEPOV, N.K., prof.; VEYN, A.M., kand. med. nauk; GRINSHTEYN, A.M., prof. [deceased]; MIKHEYEV, V.V., prof.; SMIRNOV, V.A., prof.; SHARGORODSKIY, L.Ya., prof. [deceased]; SHEFER, D.G., zasl. deyatel' nauki prof.; GRASHCHENKOV, N.I., prof., otv. red.; VASIN, N.Ya., kand. med. nauk, red.; CHULKOV, I.F., tekhn. red.

[Multivolume manual on neurology] Mnogotomnoe rukovodstvo po nevrologii. Leningrad, Medgiz. Vol. 4. [(In two parts). Vascular diseases of the nervous system and diseases of the vegetative nervous system] (V dvukh chastiakh) Sosudistye zabolevaniia nervnoi sistemy i zabolevaniia vegetativnoi nervnoi sistemy. Red. N.K. Bogolepov i V.V. Mikheev. 1963. 618 p. (MIRA 16:12)

i. Deystvitel'nyy chlen AMN SSSR (for Grinshteyn, Grashchenkov).
(CEREBROVASCULAR DISEASE)
(NERVOUS SYSTEM, AUTONOMIC--DISEASES)

MIKHEYEV, V.V.

Many-faceted forms of cerebral rheumatic lesions. Trudy 1-gn
MMI 24: 9-12 '63 (MIRA 17:3)

Neurolupus. Ibid. 265-70

MIKHEYEV, V.V.; DUKHOVNIKOVA, L.M.

Diffuse vasculitis as a basis for the development of encephalo-
myelitis from lupus erythematosus. Trudy 1-go MMI 24:71-76'63
(MIRA 17:3)

MIKHEYEV, V.V.; SHTUL'MAN, D.R.

Clinical aspects of spinal lesions in cervical osteochondrosis.
Trudy 1-go MMI 24:87-120 '63 (MIRA 17:3)

MIKHEYEV, V.V.; SHTUL'MAN, D.R.

Lesion of the spinal cord in cervical osteochondrosis (chronic cervical myelopathy). Sovet. med. 26 no.5:87-95 My'63
(MIRA 17:1)

1. Iz kliniki nervnykh bolezney (dir. - prof. V.V. Mikheyev)
I Moskovskogo meditsinskogo instituta imeni I.M. Sechenova.

MIKHEYEV, V.V., prof.

Urgent problems concerning the neural form of rheumatic fever.
Vrach. delo no.2:9-11 F*64 (MIRA 17:4)

1. Kafedra nervnykh bolezney (zav. - prof. V.V. Mikheyev)
Pervogo Moskovskogo meditsinskogo instituta.

MIKHEYEV, V.V., prof. (Moskva)

Neuropathological disseminated lupus erythematosus. Sov. med. 28
no.5:38-39 My '65. (MIRA 18:5)

MIKHEYEV, V.V.; SHTUL'MAN, D.R.; IL'YINA, N.A.; GALINA, I.V.; KOLOSOVA, O.A.

Amyotrophic lateral sclerosis syndrome in cervical osteochondrosis.
Zhur. nevr, i. psikh. 63 no.6:833-840 '63. (MIRA 17:6)

1. Klinika nervnykh bolezney (direktor - prof. V.V. Mikheyev)
I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.
Sechenova.

BANSHCHIKOV, V.M., zasl. deyatel' nauki, prof., glav. red.; ROKHLIN, L.L., prof., zam. glav. red.; SHMIDT, Ye.V., prof., red.; KERBIKOV, O.V., prof., red.[deceased]; MYAGISHCHEV, V.N., zasl. deyatel' nauki prof., red.; FELINSKAYA, N.I., prof. red.; MIKHEYEV, V.V., prof., red.; FEDOTOV, D.D., prof., red.; BABAYAN, E.M., red.; MOROZOV, G.K., doktor med. nauk, red.; SEREBRYAKOVA, Z.N., kand. med. nauk, red.; USHAKOV, G.K., doktor med.nauk, red.; SHEZHNEVSKIY, A.V., prof., red.

[Transactions of the 4th All-Union Congress of Neuro-
pathologists and Psychiatrists] Trudy Vsesoiuznogo s"ezda
nevropatologov i psikhiatrov. Moskva, Vses.nauchn. med. ob-
vo nevropatologov i psikhiatrov. Vols.1, 5-6. 1965.

(MIRA 18:11)

1. Vsesoyuznyy s"yezd nevropatologov i psikhiatrov. 4th,
Moscow, 1963. 2. Deystvitel'nyy chlen AN SSSR (for Shmidt,
Kerbikov, Shezhnevskiy).

MIKHEYEV, V.V., prof.; SHTUL'MAN, D.R., assistant; GRUSHINA, A.G., assistant

Clinical anatomical analysis of a case of discogenic cervical
myelopathy with a pattern of amyotrophic lateral sclerosis.
Trudy 1-go MMI 38:117-127 '65. (MIRA 18:10)

MIKHEYEV, V.V., prof.

Vertebral osteolysis. Trudy 1-go MDI 38:453-458 1965. 2002 12:11

MIKHEYEV, V. V.

USSR/Engineering
Induction Heating
Heating - Electric Units

Apr 1947

"Induction Heating During Assembly and Operation of Electric Equipment."
G.I. Gurevich, V.V. Mikheyev, Southern Electric Assembly Factory,
Dnepropetrovsk, 1 p.

"Promyshlennaya Energetika" Vol IV, No 4

Discusses the induction circuit for penetration of wooden parts and heating of cable masses, as well as the drying of wooden baffle plates and containers for oil-filled breaking switches.

PA 23T61

28292

S/076/61/0 5/010/011/013
B106/B110

11.7200

AUTHORS: Kogarko, S. M., Mikheyev, V. V., and Basevich, V. Ya.

TITLE: Effect of active particles of combustion products on the limits of inflammability in a turbulent flow

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 10, 1961, 2341 - 2347

TEXT: In continuation of earlier papers on the effect of active particles (O, H, OH) on spontaneous inflammation, stabilization of flame, and rate of propagation in a turbulent flow (Ref. 1: S. M. Kogarko, M. I. Devishev, V. Ya. Basevich, Zh. fiz. khimii, 33, 2345, 1959; Ref. 2: S. M. Kogarko, M. I. Devishev, V. Ya. Basevich, Dokl. AN SSSR, 127, 137, 1959; Ref. 3: V. Ya. Basevich, M. I. Devishev, S. M. Kogarko, Izv. AN SSSR, Otd. tekhn. n., No. 3, 138, 1960), the authors studied the effect of active particles formed in the combustion products of hydrogen and hydrocarbons (O, H (atomic), OH) on the limits of inflammability of fuel gases in a turbulent air flow. Fig. 1 shows the scheme of the experimental plant.

The tube had a rectangular section of 40 by 70 mm². No initial concentration of active particles was to occur at inflammation in the experiments.
Card 1/4

28292

S/076/61, 035, C10, C11, C15
B106/B110

Effect of active particles...

in which hydrogen was burnt in burner 2. The distance between burner 2 and ignition point (2000 mm) allowed recombination of the active particles before reaching the ignition point. In the combustion in burner 3 which was only 400 mm distant from the ignition point, the active particles reached the ignition point. The concentration of active particles could be changed by introducing surfaces with different coats (quartz, carbon black, graphite, potassium tetraborate) between burner and ignition point. The degree of turbulence of flow was 7 - 10%, scale 3 - 5 mm (Ref. 3, see above). In a series of experiments, a butane-propane mixture was burnt with air instead of hydrogen. This required a special burner. In most cases, the ignition of fuel gases was initiated by sparks of an energy of 0.02 joules with an electrode spacing of 1.5 mm; in some cases, for comparison, by a burner or heated body. n-butane, a mixture of 77% n-butane and 23% isobutane, hydrogen, and sewer gas (mainly methane) were used as fuel gases. In the experiments, the upper and lower limits of inflammability and flame stabilization of the fuel-air mixture were determined by corresponding regulation of fuel supply. These studies showed that in all cases (ignition by spark, by a burner, by a heated body; different temperatures; different flow rates; different fuel gases) an increase in initial concentration of active particles led

Card 2/4

28292

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Effect of active particles...

to a considerable decrease of the lower limit of inflammability of the fuel-air mixture. This extension of limits of inflammability increases with rising concentration of active particles and can be explained by the rise of reaction rate in the initial stage of combustion. The upper limit of inflammability was not changed by the active particles. It is assumed that the reason therefore was only an insufficient concentration of active particles and the low range of flow rates (10 - 50 m/sec) at which the experiments were carried out. There is no reason to assume that the upper limit of inflammability is not increased by the effect of active particles. In the combustion of hydrocarbons obviously fewer active particles are formed than in the combustion of hydrogen, since in the former case the limits of inflammability of fuel gases are not so wide. The concentration change of active particles in the flow by introduction of surfaces with different coats changes the limits of inflammability according to the probability of recombination of active particles on the introduced surface. In the case of ignition by burner the limits of inflammability are higher than in the case of spark ignition and are still considerably widened by introduction of active particles. There are 8 figures, 3 tables, and 6 references: 4 Soviet and 2 non-Soviet. The two references to English-

Card 3/4

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Effect of active particles...

28292 S/076/61/035/010/011/015
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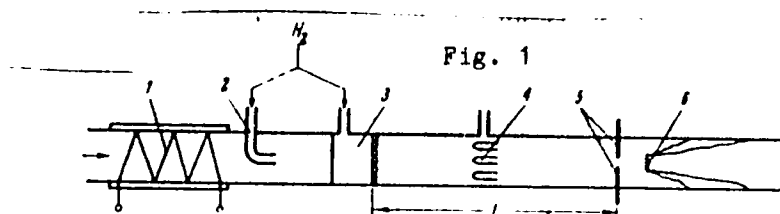
language publications read as follows: I. R. Arthur, Nature, London, 164, 537, 1949; C. P. Fenimore, G. W. Jones, J. Phys. Chem., 62, 178, 1958.

ASSOCIATION: Akademiya nauk SSSR Institut khimicheskoy fiziki (Academy of Sciences USSR Institute of Chemical Physics)

SUBMITTED: March 4, 1960

Fig. 1. Scheme of the plant.

Legend: (1) Electrical heating; (2,3) hydrogen diffusion burner, (4) mixing device; (5) electrodes; (6) stabilizer.



Card 4/4

SOV/124-58-3-3399

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 118 (USSR)

AUTHOR: Mikheyev, V. V.

TITLE: How to Estimate the Over-all Rigidity of a Building (K voprosu otsenki obshchey zhestkosti zdaniya)

PERIODICAL: Tr. N. -i. in-ta osnovaniy i fundamentov, 1956, Nr 30, pp 39-44

ABSTRACT: An approximate method for the estimation of the rigidity of brick buildings, indispensable for the calculation of their foundations, is proposed on the basis of their settling characteristics.

N. P. Kashparova

Card 1/1

124-58-9-10447D

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 147 (USSR)

AUTHOR: Mikheyev, V. V.

TITLE: Investigation of Problems of the Strain Calculation of the Foundations of Urban Buildings (Issledovaniye voprosov rascheta osnovaniy grazhdanskikh zdaniy po deformatsiyam)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the N. -i. in-t osnovaniy i podzemn. sooruzh. Akad. str-va i arkhitektury SSSR (Scientific Research Institute for Foundation and Underground Structures, Academy of Construction and Architecture, USSR), Moscow, 1958

ASSOCIATION: N. -i. in-t osnovaniy i podzemn. sooruzh. Akad. str-va i arkhitektury SSSR (Scientific Research Institute for Foundation and Underground Structures, Academy of Construction and Architecture, USSR), Moscow

1. Structures--Mathematical analysis

Card 1/1

MIKHAYEV, Y.Y.

Interaction of the wall of the building with its base. Sbor.
trud. NIIOSP no. 34:58-78 '58. (MIRA 12:1)
(Soil mechanics) (Walls)

~~MIKHAYEV, V. V.~~

Practical problems in using standards and technical specifications
in designing natural foundations of buildings and industrial structures
(NITU 127-55). Osn., fund. i mekh. grun. no.4:16-18 '59.

(Foundations)

(MIRA 12:10)

MIKHAYEV, V.V.; POL'SHIN, D.D.; TOKAR', R.A.

Draft for new edition of norms and technical specifications
for designing natural foundations of buildings and industrial
structures. Osn., fund. i mekh. grun. 2 no.5:4-7 '60.
(Foundations) (PIRA 13:4)

MIKHEYEV, V.V.; SEREBRYANY, R.V.; SMORODINOV, M.I.

Zones of plastic deformation in foundations. Osn., fund. 1
mekh. grun. 3 no.3:12-13 '61. (MIRA 14:7)
" (Deformations (Mechanics))
" (Foundations) /

MIKHEYEV, V.V.; POL'SHIN, D.Ye.; TOKAR', R.A.

More about the new editorial board's draft of norms and
technical specifications for designing natural foundations.
Osn., fund. i mekh. grun. 3 no.5:25-26 '61. (MIRA 14:11)
(Foundations)

MIKHEYEV, V.V.

Nomenclature for distinguishing settling soils. Osn., fund.1
mekh.grun. 4 no.5:12-14 '62. (MIRA 15:12)
(Soils--Nomenclature)

IGNATOVA, O.I.; MIKHEYEV, V.V.

Graphic method of making calculations for soil foundations by
deformations. [Trudy] NII osn. no.49:97-104 '62. (MIRA 15:12)
(Soil mechanics)

YEFREMOV, M.G.; KONOVALOV, P.A.; MIKHEYEV, V.V.

Distribution of deformations in layers of a clay and sand bed
being compacted; from field experiment material. Osn., fund. i
mekh.grun. 5 no.6:5-7 '63. (MIRA 16:12)

MIKHEYEV, V.V.; SINEL'SHCHIKOV, S.I., starshiy nauchnyy sotrudnik

Draft of new norms: "Instructions for determining the characteristics of soils." Osn., fund. i mekh. grun. 7 no.3:30-32 '65.

(MIRA 18:6)

1. Rukovoditel' laboratorii metodov issledovaniya gruntov
Nauchno-issledovatel'skogo institut osnovaniy i podzemnykh
sooruzheniy (for Mikheyev).

ZHDANKO, A.A., doktor tekhn. nauk; MIKHEYEV, V.V., inzh.

Studying wear resistance of the working components of concrete mixers. Stroi. i dor. mash. 9 no.2:21-22 F '64. (MIRA 18:7)

IGNATOVA, O.I.; MIKHEYEV, V.V.

Study of the relation between the deformation modulus and the
physical characteristics of alluvial clay soils. Osn., fund.
1 mekh. grun. 7 no.4:16-18 '65. (MIRA 18:8)

VAGANOV, Anatoliy Maksimovich; KARFOV, Andrey Borisovich;
VINOGRAOV, I.V., dots., retsenzent; MIKHEYEV, V.V.,
nauchn. red.; SHAKHNOVA, V.M., red.

[General construction of ships] Obshchee ustroistvo sudov.
Leningrad, Sudostroenie, 1965. 267 p. (MIRA 18:7)

1. Leningradskiy korablistroitel'nyy institut (for
Vinogradov).

MIKHEYEV, V. Ye., nachal'nik.

To ensure further improvement in the financing and management of enterprises of the municipal economy. Gor.khoz.Mosk. 27 no.8:5-8 Ag '53.
(MLRA 5:5)

1. Moskovskoye gorodskoye finansovoye upravleniye.
(Moscow--Construction industry) (Construction industry--Moscow)

PROKHOROV, Mikhail Andreyevich, inzh.; MIKHEYEV, Yakov Fedorovich;
ANTONOVA, N.N., inzh., red.

[Mobile automatic steam chambers for heat treating large reinforced concrete products; practices of the "Promstroi" Trust in the city of Penza] Peredvizhnye avtomaticheskie proparochnye kamery dlia termooobrabotki krupnogabaritnykh zhelezobetonnykh izdelii; opyt tresta "Promstroi" g. Penzy. Moskva, Stroiizdat, 1964. 15 p. (MIRA 18:5)

1. Starshiy prepodavatel' kafedry fiziki i elektrotekhniki Penzenskogo inzhenerno-stroitel'nogo instituta (for Prokhorov).
2. Nachal'nik proizvodstvenno-tekhnicheskogo otdela tresta "Promstroy" goroda Penzy (for Mikheyev).

MIKHEYEV, YA. M.

Agriculture

Varieties of field crops for Kirov Province, Kirov, Oblgiz, 1951.

Monthly List of Russian Accessions. Library of Congress, December 1952 UNCLASSIFIED.

HEREZINA, Ye.Kh.; ZATSEVA, A.I.; SAKULINSEAYA, M.G.; VISHNEVSKAYA, O.P.;
MEZINA, A.A.; MIKHEYEV, Ya.M.; BELOBORODOV, P.A. Prinsipali
uchastiye: BASHKATOVA, Z.V.; OLEYNIKOVA, Ye.I.; SIBIRYAKOVA, A.A.
MIKHAYLOV, A.N., otv.red.; LIVSHITS, B.Kh., red.; VLADIMIROV,
O.G., tekhn.red.

[Agroclimatic manual for Kirov Province] Agroklimaticheskiy spra-
vochnik po Kirovskoi oblasti. Leningrad, Gidrometeor.izd-vo, 1960.
190 p. (MIRA 14:3)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye gidrometeorologi-
cheskoy sluzhby. Verkhne-Volzhskoye upravleniye.
(Kirov Province--Crops and climate)

MIKHEYEVA, Ye. N., starshiy inzh.; BOBROV, I.N., starshiy inzh.

Accomplishments in the work of the enterprise of communist labor.
Avtom., telem. i sviaz' 5 no.5:17-19 My '61. (MIRA 14:6)

1. 2-ya L'vovskaya distantziya signalizatsii i svyazi.
(Railroads—Employees)
(Railroads—Signaling)

MITRIYEV, Lev Nikolayevich; MIKHEYEV, Ye.N., red.

[Grid production methods in the manufacture of printed circuits] Metod setkografii v proizvodstve pechatnykh skhem. Leningrad, 1964. 20 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriya: Pribory elementy avtomatiki, no.6)

(MIRA 17:7)

MIKHEYEV, Ye. P.

Photochlorination of diallyldichlorosulfate in liquid state.
Ye. P. Mikheyev, Proc. Acad. Sci. U.S.S.R., Sect. Chem.
108, 235-7 (1950) (English translation).—See C.A. 50,
1840c.

2111000
B.M.P.
MT

MIKHEYEV, YE. P.

USSR/Organic Chemistry - Synthetic Organic Chemistry

E-2

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4458

Author : Mikheyev, Ye. P.

Inst : Academy of Sciences USSR

Title : Photochlorination of Diethyldichlorosilane in Liquid State

Orig Pub : Dokl. AN SSSR, 1956, 108, No 3, 484-486

Abstract : Passing Cl_2 into $(\text{C}_2\text{H}_5)_2\text{SiCl}_2$ (I) at a rate of 1.5 g/minute, at $15-18^\circ$ and under illumination with a 150 watt bulb, until the weight increase corresponds to 0.75 mole Cl_2 per mole of I, results in a mixture of products, containing 40% I, 20% alpha-chloroethyl-ethyl dichlorosilane (BP 163° , n_{20}^D 1.4573, d_4^{20} 1.1965), 20% beta-chloroethyl-ethyl dichlorosilane (BP 132° , n_{20}^D 1.4570, d_4^{20} 1.1861), and 15% polychlorides, from which was isolated, apparently, α , β -dichlorodiethyl-dichlorosilane, BP 212° , n_{20}^D

Card 1/2

- 92 -

20-4-21/52

AUTHORS: Mal'nova, G. N., Mikheyev, Ye. P.,
Klebanskiy, A. L., Golubtsov, S. A., and
Filimonova, N. P.

TITLE: On the Catalytic Phenylation of Hydrogenous Alkyl-
Chlorosilanes by Benzene (O kataliticheskom fenilirovanii
vodorod~~s~~oderzhashchikh alkilkhlorosilanov benzolom).

PERIODICAL: Doklady AN SSSR, Vol. 117, Nr 4, pp. 623-625 (USSR)

ABSTRACT: This reaction of the alkylchlorosilanes mentioned in the
title above with aromatic hydrocarbons has been treated
only insufficiently in scientific literature. A short
literary review reveals among other facts that as yet in
almost every case elements from the third group of the
periodic system have been used as catalyzers. The authors
preferred to use boric acid as a catalyzer sufficiently
active and fitting for their purpose. If it is added to the
reaction mixture in a quantity of 0,1% the formation of
phenyl-trichlorosilane is restrained almost completely.
Otherwise there is hardly any possibility of separating it
from methyl-phenyl-dichlorosilane by rectification. The
increase of compression in the autoclave - chiefly caused by

Card 1/3

On the Catalytic Phenylation of Hydrogenous Alkyl-Chlorosilanes by Benzene

20-4-21/52

elimination of hydrogen ceases, according to the temperature of synthesis, at 290° after one hour, at 250° after two hours. Warming for a longer time is not profitable (see patents, references 2-4,6) as in that case the exploit of the final product decreases. With 0,1% boric acid the optimal temperature is by 240°. If the temperature is caused to fall by 5-10° the reaction is decisively retarded. The comparatively small exploit of alkyl-phenyl-dichlorosilane is caused on the whole by the high capability of reaching of the alkyl-dichlorosilanes which suffer not only phenylation but different other transformations such as changes of thermal rearrangement, condensation, and reaction with alkyl-phenyl-dichlorosilane. The details of table 2 confirm the assumption that the augmentation of the proportion of benzene will increase the exploit of alkyl-phenyl-dichlorosilane. Under optimal conditions it reaches 40% of the reacting methyl-dichlorosilane. Finally by-products are mentioned. The reciprocal reaction of benzene and ethyl-dichlorosilane in presence of boric acid is analogous. The optimal temperature is about 250°.

Card 2/3

On the Catalytic Phenylation of Hydrogenous Alkyl-
Chlorosilanes by Benzene

20-4-21/52

There are 2 tables, and 7 references, 1 of which is Slavic.

PRESENTED: June 28, 1957, by B. A. Kazanskij, Academician

SUBMITTED: June 27, 1957

AVAILABLE: Library of Congress

Card 3/3

AUTHOR: Mikheyev, Ye. P.

20-117-5-26/54

TITLE: Photochlorination of Ethyl Trichlorosilane in Liquid State
(Fotokhlorigovaniye etiltrikhlorsilana v zhidkom sostoyanii)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 117, Nr 5, pp. 821-822 (USSR)

ABSTRACT: In the references 2 methods of chlorination of this substance are described (references 1, 2). The author succeeded in carrying out the reaction in the title under already earlier described conditions (reference 3) by means of chlorine gas and at an illumination with an electric bulb (150 watt). The reaction conditions are given. The mixtures were separated after the chlorination on a rectification column with a porcelain mounting. The results of the chlorination are given in table 1. The composition of the mixtures proves an unusually high yield of mono-chlorine substitutes (93 and 85% of the chlorosilane which entered into the reaction at a chlorination degree of 0,75 and 1 g-mol. Cl_2 per 1 g-mol $\text{C}_2\text{H}_5\text{SiCl}_3$). At chlorination degrees of 1,5 and 2 g-mol per 1 g-mol $\text{C}_2\text{H}_5\text{SiCl}_3$ among the 3 possible dichlorine substitutes the β,β -isomer predominates; α,α -isomer and α,β -isomer are formed to a considerably smaller extent. The isomer with a

Card 1/3

Photochlorination of Ethyl Trichlorosilane in Liquid State 20-117-5-26/54

boiling point at approximately 200° (liquid at room temperature) predominates among the 3 possible trichlorine substitutes. There are reasons according to which the latter is assumed to be an α, β, β -isomer. The adjacent boiling points of single isomers render the separation of high-chlorinated mixtures difficult. The estimation of the ratio of quantities (the last columns of table 1) can be considered only as approximative and to a great extent qualitative. In the case of action 0,1 n caustic soda in water on α, β - and β, β -di-chloroethyl trichlorosilane 4 atoms of hydrolyzable chlorine appear. In the titration in the alcohol-water medium with "nitrous oxide-mercury" 3 such chlorine atoms appear. Table 2 gives the physical constants of the chlorine substitutes of the ethyl chlorosilane after the rectification. According to a general comparison of the results with the reference data the described photochlorination is considered to be the most rational. There are 2 tables, and 4 references, 2 of which are Slavic.

Card 2/3

SOV/78-3-11-1/23

AUTHORS: Volkov, V. L., ~~Mikhayev~~, Ye. P., Anisimov, K. N., Yeliseyeva, L. Ye., Valuyeva, Z. P.

TITLE: The Production of the Carbonyl Compounds of Molybdenum and Tungsten (Polucheniye karbonilov molibdena i vol'frama)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2433-2436 (USSR)

ABSTRACT: In the present paper the authors investigated the reaction velocity, the impurities, the time, as well as the temperature and the pressure of the reaction gases, and the nature of the solvents on the course of the synthesis and the yield of the carbonyl compounds of molybdenum and tungsten. The synthesis of molybdenum carbonyl lasted 2-3 hours, the synthesis of tungsten carbonyl 1-1.5 hours. Tungsten carbonyl is produced with a yield of 81-85% at a reaction temperature of 32-67°. The production of the carbonyl compounds of tungsten and molybdenum is usually carried out at 50 atmospheres absolute pressure. Experiments were carried out to produce molybdenum carbonyl under a pressure of 20-30 atmospheres excess CO-pressure. Zinc powder and aluminum powder were used as reducing agents. If

Card 1/2

SOV/78-3-11-1/23

The Production of the Carbonyl Compounds of Molybdenum and Tungsten

aluminum is used as reducing agent the yield of molybdenum carbonyl amounts to 0,6% at 18°C, 1,3% at 100°C, 9% at 150°C and 100 atmospheres excess pressure. If iron powder is used as reducing agent, the yield of molybdenum carbonyl amounts to 1,5% at 100°C. If zinc is used as reducing agent, the yield of molybdenum carbonyl is not higher than 6,6%. Mainly zinc powder is used as reducing agent for the production of tungsten carbonyl. The yield amounts to 85%. It was shown that for the production of carbonyl compounds ether in a quantity of not more than 2 g-mol to 1 g-mol metal chloride is necessary. There are 2 tables and 3 references, 2 of which are Soviet.

SUBMITTED: October 2, 1957

Card 2/2

5(3)

AUTHORS: Mal'nova, G. M., Mikheyev, Ye. I., SOV, 6-121-1-11, 13
Klebanskiy, A. L., Filimonova, N. P.

TITLE: Catalytic Interaction Between Alkyl Dichloro Silanes and
Halogen Substitution Products of Benzene (Kataliticheskoye
vzaimodeystviye alkildikhlorosilanov s zhidzrazeshcheniyami
benzola)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 1,
pp 693 - 695 (USSR)

ABSTRACT: The above interaction is mentioned in only a few patents
(Ref. 1). The authors investigated the same interaction of
methyl dichloro silane with chloro benzene and fluoro benzene
as well as the same reaction of ethyl dichloro silane with
chloro benzene. Boric acid with its numerous advantages was
used as catalyst, or more accurately as source material for
the catalyst. 1) Reaction of methyl and ethyl dichloro silane
with chloro benzene. The temperature necessary for introducing
the reaction amounts to 255° (methyl dichloro silane); it is
10° higher for ethyl dichloro silane. Table 1 shows the

Card 1/3

Catalytic Interaction Between Alkyl Dichloro Silanes and S. V. 121-4-13, 53
Halogen Substitution Products of Benzene

dependence of the yield of ethyl chloro-phenyl dichloro silane on the temperature of the synthesis. The following products are formed in the reaction of ethyl dichloro silane: 6% remain unchanged; ~7% methyl dichloro silane, ~5% dimethyl dichloro silane, ~60% unchanged chloro benzene, ~4% intermediate fraction (boiling point 44-128°/29 mm), ~1% methyl chloro-phenyl dichloro silane, and ~5% residue in the flask. Gaseous products contain 86.5-97.5% hydrogen, 9-10% methane, and 0.7-1% hydrogen chloride. The isomers of ethyl chloro-phenyl dichloro silane are contained in the fractions as follows: ortho- ~20%, meta- ~45%, and para- ~35%. The total yield of all isomers amounts to 24-27% of the reacted ethyl dichloro silane (the ratio of the isomers was determined by K. K. Popkov). The yields were also given for other substances mentioned above. From table 2 it may be seen that in the said reaction the reactivity of the benzene nucleus decreases regularly with the successful substitution of a hydrogen atom by a halogen atom. This decrease is the more abrupt the higher the polarity of the halogen. There are 2 figures and 3

Card 2/3

Catalytic Interaction Between Alkyl Dichloro Silanes and SO₂, 20-123-4-35, 53
Halogen Substitution Products of Benzene

references, 1 of which is Soviet.

PRESENTED: July 14, 1958, by B. A. Kazanskiy, Academician

SUBMITTED: July 10, 1958

Card 3/3

MIKHEYEV, Ye. P.

Ye. P. Mikheyev, G. N. Mal'nova et al., "The catalytic interaction of Alkyldichlorosilanes with Benzene and its derivatives."

Report presented at the Second All-Union Conference on the Chemistry and Practical Application of Silicon-Organic Compounds held in Leningrad from 25-27 September 1958.

Zhurnal prikladnoy khimii, 1959, Nr 1, pp 238-240 (USSR)

5(2)

SOV/76-4-2-1 40

AUTHORS:

Nesmeyanov, A. N., Anisimov, K. N., Mikheyev, Ye. P.,
Volkov, V. L., Valayeva, Z. P.

TITLE:

~~Preparation~~ f Tungsten Carbonyl by the Interaction of
Iron Pentacarbonyl With Tungsten Hexachloride (Poluchenie
karbonila vol'frama vzaimodeystviem pentakarbonila zheleza
s shestikhloristym vol'framom)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 2,
pp 249-252 (USSR)

ABSTRACT:

The interaction of tungsten-6-chloride with iron pentacarbonyl
in an ethyl ether medium was investigated. The tests in the
autoclave were carried out at the following molar ratios of
the individual components: $WCl_6 : Fe(CO)_5 = 1 : 2.25$ and
 $1 : 3.25$. The temperatures during the tests were: 70, 90, 110,
130, 150, 170 and 190°. At the molar ratio $Fe(CO)_5 : WCl_6 =$
 $= 3.25 : 1$ the yield of $W(CO)_6$ increases with temperature;
it shows an increase of 29-31% at 20°, of 36-42% at 70°, and
of 72-75% at 90°. The course of the reaction is shown in the

Card 1/2

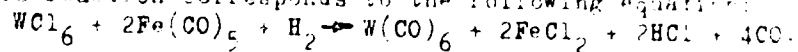
SOV/78-4-2-1, 40

Preparation of Tungsten Carbonyl by the Interaction of Iron Pentacarbonyl
With Tungsten Hexachloride

following equation: $WCl_6 + 3Fe(CO)_5 \rightarrow W(CO)_6 + 3FeCl_2 + 9CO$.

The supply of hydrogen to the reaction mixture, after the conclusion of the reaction, increases the $W(CO)_6$ yield to

85%. This reaction corresponds to the following equation:



The production of tungsten hexacarbonyl is described in detail. Results which are well reproducible are obtained by this method. There are 2 tables and 7 references, 3 of which are Soviet.

SUBMITTED: December 9, 1957

Card 2/2

5(2)

SOV/76-4-3-2/34

AUTHORS: Nesmeyanov, A. N., ~~Mikhayev, Ye. P.~~, Anisimov, K. N.,
Volkov, V. L., Valuyeva, Z. P.

TITLE: The Synthesis of Molybdenum Carbonyl by Interaction Between
Iron Pentacarbonyl and Molybdenum Pentachloride (Sintez
karbonila molibdena vzaimodeystviyem pentakarbonila zheleza s
pyatikhloristym molibdenom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 3,
pp 503-505 (USSR)

ABSTRACT: It has been found that molybdenum hexacarbonyl is formed in a
maximum yield of 28.5% by the interaction between iron penta-
carbonyl and molybdenum pentachloride in the presence of
hydrogen chloride under a carbon monoxide pressure in an ether
medium. Molybdenum hexacarbonyl is formed in a 15% yield at
175° in the presence of compressed hydrogen in an ethyl ether
medium. Molybdenum carbonyl is formed in a yield of 23.4% at
175° when the reaction is performed in an autoclave with
hydrogen (initial pressure 100 atmospheres) and carbon monoxide
(initial pressure 50 atmospheres). There are 2 tables and
1 Soviet reference.

NIK 42420, 14.4

807/78-4-8-19/43
 (2)
 AUTHORS: Sevchenko, A. S., Anisimov, E. S., Volkov, V. L.,
Trifonov, A. E., Mikhayev, Ye. P., Medvedev, A. V.
 TITLE: The Synthesis of Chromium Hexacarbonyl by the Reaction of
 Chromium Trichloride With Lithium Aluminum Hydride and Carbon
 Oxide Under Pressure (Sintez geksakarbonila khroma vsimodet-
 viyem trekhkhloridogo khroma s lititsialyuminigidridom i
 oksid'yu ugleroda pod davleniyem)
 PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 8, pp 1827-1828
 (USSR)
 ABSTRACT: If the reaction mentioned in the title is carried out at a
 ratio of 1 mole $CrCl_3$: 3 mole $LiAlH_4$ in etheric solution at
 65°C and a pressure of 100 at, $Cr(CO)_6$ is obtained in a 65%
 yield. The hitherto published data (Refs 1-6) show lower
 yields. A lower content of lithium aluminum hydride in the
 reaction mixture and lower temperatures strongly reduce the
 yields (Table 1). There are 1 table and 7 references, 3 of
 which are Soviet.

Card 1/3

5(2)

SOV/78-4-9-3/44

AUTHORS: Nermeyanov, A. N., Mikheyev, Ye. P., Anisimov, E. N.,
Filimonova, N. P.

TITLE: The Synthesis of the Chromium Hexacarbonyl With Participation
of Metallic Reducing Agents

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 9,
pp 1958-1960 (USSR)

ABSTRACT: Reference is made to the studies on $\text{Cr}(\text{CO})_6$ described in
publications (Refs 1-5, 7, 8). The difficulty encountered
in synthesizing this substance lies in the high electrode
potential of chromium trichloride, as this makes the use
of strongly reducing metals necessary, which simultaneously
give side reactions with the solvent. The only comparatively
indifferent solvent was stated to be pyridine, which does
not react with the alkali metals and forms complex compounds
with $\text{Cr}(\text{CO})_6$. CrCl_3 was dissolved in pyridine and reacted with
CO under higher pressure after addition of zinc powder at
175° and yielded 10.8% $\text{Cr}(\text{CO})_6$. The authors obtained a 35%
yield of the same substance, by applying 50% excess magnesium
activated by a crystal of iodine. Without activation by iodine
the yield sank to 4%, as the magnesium did not react. An

Card 1/2

SOV/78-4-9-3/44

The Synthesis of the Chromium Hexacarbonyl With Participation of Metallic Reducing Agents

increase in the CO pressure to 220 atm also passivated the magnesium (only 1.7% yield). Appreciable yields were obtained with sodium (150% theoretical amount) at 20-25°. Raising the temperature to 50° lowered the yield. However, a rise in pressure to 220 atm increased the yield to 37%. The same yield was obtained by using lithium instead at a pressure of only 70 atm, but a further rise in the CO pressure had no effect on the yield. There are 9 references, 2 of which are Soviet.

SUBMITTED: May 28, 1958

Card 2/2

S/076/60/034/008/007/014
B015/B054

AUTHORS: Shakhparonov, M. I., Balamutova, E. A., Lel'chuk, S. L.,
~~Michayev, Ye. P.,~~ Shutova, L. V., Glushkova, L. F. and
Martynova, M. Ye. (Moscow)

TITLE: Investigation of Pressure and Density of the Vapor in
Systems Containing Organosilicon Compounds. I. The System
Benzene - Methyl-dichlorosilane - Methyl-phenyl
Dichlorosilane ✓

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 8,
pp. 1734-1740

TEXT: The authors determined pressure and density of the vapor of a
number of halogen alkyl silanes and -aryl silanes since these substances
readily react with water vapor or metals, dissolve in lubricants, and
easily polymerize. In the present paper, they report on the system
benzene - methyl-dichlorosilane - methyl-phenyl dichlorosilane. The
experimental arrangement (Fig. 1) described in Ref. 2 is based on the

Card 1/3

Investigation of Pressure and Density of the
Vapor in Systems Containing Organosilicon
Compounds. I. The System Benzene - Methyl-
dichlorosilane - Methyl-phenyl Dichlorosilane

S/076/60/034/008/007/014
B015/B054

principle of hydrostatic weighing, and is thoroughly explained. The apparatus includes a quartz balance which is installed in a glass balloon in a thermostat. In another thermostat there is the evaporator connected with an Hg manometer. Balloon and evaporator are joined by a thermally insulated, heated pipe. A quartz ball is suspended from the quartz spiral of the balance; as the vapor of the substance investigated enters the balloon, the quartz ball loses in weight, and the vapor density can be determined from the decrease in length of the spiral. The method of operation, the calibration of the instrument, and an estimation of the errors of measurement are indicated. The latter are about 1% in the pressure-, and about $\pm 2.5\%$ in the density determination. The molecular weight of the liquid vapors was calculated by the Mendeleyev Clapeyron equation, and compared with data of publications (Table 1); pressure and density values of methyl-dichlorosilane and methyl-phenyl dichlorosilane, as well as their solutions, are given in Table 2. The results show that the vapors represent associate complexes. The Trouton

Card 2/3

Investigation of Pressure and Density of the
Vapor in Systems Containing Organosilicon
Compounds. I. The System Benzene - Methyl-
dichlorosilane - Methyl-phenyl Dichlorosilane

S/076/60/034/008/007/014
B015/B054

constant for the vapors was calculated, and given in Tables 2 and 3. It
is found that at 40° - 100°C the vapor composition of the solutions
benzene - methyl-dichlorosilane - methyl-phenyl dichlorosilane is
practically equal to the vapor of the corresponding binary mixture
benzene - methyl-dichlorosilane. The heats of vaporization and the
entropies were calculated. There are 5 figures, 3 tables, and 4
references: 3 Soviet and 1 US.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V.
Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: October 30, 1958

Card 3/3

MIKHEYEV, YE.P.

23

AUTHOR:

MIKHEYEV, YE. P. Investigation of the Vapor Pressure and Density in Systems Containing Dichloromethane, Ethyl Chloride, and Chloroform. Chem. Abstr. 1967, 66, 12111g.

TITLE:

Investigation of the Vapor Pressure and Density in Systems Containing Dichloromethane, Ethyl Chloride, and Chloroform. Chem. Abstr. 1967, 66, 12111g.

PERIODICAL:

Chem. Abstr. 1967, 66, 12111g.

NOTE:

Pressure and density of the saturated vapor of the systems $(CH_2Cl_2) - (CH_3CH_2Cl)$ and $(CH_2Cl_2) - (CH_3Cl)$ were investigated in the wide range

Curve 2/6

of concentration and for temperatures of from 0° to 50°C. The same method of measurement was used as in a previous paper (Ref. 1), and the curves obtained in the two systems were determined. The curves obtained in the two systems are plotted and density values are given. Table 1 gives the values of the refractive indices, the density, the boiling points of the components at 760 mm Hg, the molecular weight of vapor at this pressure, the values of the constants of the Antoine equation as well as the values of the evaporation heat and temperature entropy at the normal boiling point.

Curve 2/6

Table 1

System	Boiling point, °C	Density, g/cm ³	Refractive index, n _D ²⁰	Evaporation heat, kcal/mole	Temperature entropy, kcal/mole
$(CH_2Cl_2) - (CH_3CH_2Cl)$	38.2	1.250	1.400	6.5	1.5
$(CH_2Cl_2) - (CH_3Cl)$	34.6	1.240	1.390	6.0	1.4

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Card 5/6

¹ Legend to "Table 1." 2: In Table 1, 1 denotes the emulsifier; 2 - boiling point at 760 mm Hg.; 3 - molecular weight M at 760 mm Hg.; 4 - K theoretical; 5 - boiling point in cc in Table 2. There are 4 Figures, 2 tables and 1 Soviet reference.

ASSOCIATION: Kharkovskiy gosudarstvennyy universitet im. N. Y. Lomonosova
(Kharkov State University [ment N. Y. Lomonosov])

RECEIVED: October 30, 1955
Card 6/6

S/191/61/000/001/005/C15
B101/B205

AUTHORS: Mikheyev, Ye. P., Klebanskiy, A. L., Mal'nova, G. N.,
Popkov, K. K.

TITLE: Catalytic dehydrocondensation of silane chlorohydrides
with aromatic compounds

PERIODICAL: Plasticheskiye massy, no. 1, 1961, 19 - 21

TEXT: A study has been made of the reaction $\text{Si-H} + \text{H-Ar} \rightarrow \text{H}_2 + \text{Si-Ar}$. \checkmark
the temperature of which can be largely reduced by such catalysts as BCl_3 .
 H_3BO_3 , AlCl_3 , etc. A paper by A. J. Barry et al. (Ref. 1) is discussed, in
which hydrogen is supposed to undergo electrophilic substitution at the
aromatic ring, accompanied by the catalytic formation of the complex
 $[\text{H}:\text{BCl}_3]^+$. In addition, by-products with cyclohexadiene structure are
formed. These statements have been checked here. Methyl dichlorosilane

Card 1/4

✓
1

S/191/61/000/001/005/015
B101/B205

Catalytic dehydrocondensation of ...

was heated in an autoclave with C_6H_6 , $C_6H_5.CH_3$, $C_6H_5.CH(CH_3)_2$, and C_6H_5Cl in the presence of 0.1% H_3BO_3 , and with C_6H_5F in the presence of 0.3% H_3BO_3 . The molar ratio of methyl dichlorosilane to the aromatic hydrocarbon was 1:3. Reaction temperature was 230-290°C. Heating was stopped as soon as the pressure in the autoclave had become constant. Under these conditions, which are described as being an optimum, the following dehydrocondensation products were obtained: 40% yield with C_6H_6 , 41% with $C_6H_5.CH_3$, 24% with $C_6H_5.CH(CH_3)_2$, 18% with C_6H_5F , and 25% with C_6H_5Cl . The mixture of the reaction products was fractionated. The resulting mixture of isomers of the new compound methyl-cumyl dichlorosilane boils between 127.6 and 137.6°C at a pressure of 26-28 mm Hg; $d_4^{20} = 1.1020$; $n_D^{20} = 1.5134$. Analysis has shown that this fraction follows the formula $C_{10}H_{14}SiCl_2$. The ratio of o-, m-, and p-isomers in methyl-aryl dichlorosilanes was determined from Raman spectra.

Card 2/4

Catalytic dehydrocondensation of

S/191/61/000/001/005/015
B101/B205

Compound	Experimental ratio		
	o-isomer	m-isomer	p-isomer
$\text{CH}_3(\text{CH}_3\text{C}_6\text{H}_4)\text{SiCl}_2$	1	10	3
$\text{CH}_3(\text{CH}_3)_2\text{CHC}_6\text{H}_4\text{SiCl}_2$	1	12	3
$\text{CH}_3(\text{FC}_6\text{H}_4)\text{SiCl}_2$	1	4	2
$\text{CH}_3(\text{ClC}_6\text{H}_4)\text{SiCl}_2$	1	6	4

The amount of CH_4 formed by reaction with benzene and toluene was 3.6 and 3.4%, prespectively; with cumene, 10.5%; with fluorobenzene, 12.6%; with chlorobenzene, 6.5%. Equal amounts of dimethyl dichlorosilane were obtained by reaction with benzene and toluene. This is taken as an indication that CH_4 and $(\text{CH}_3)_2\text{SiCl}_2$, are formed, not by decomposition of the hypothetical adducts, but by disproportionation of $\text{CH}_3\text{SiHCl}_2$. The fact


Card 3/4

Catalytic dehydrocondensation of

S/191/61/000/001/005/015
B101/B205

that primarily meta-derivatives are formed is explained in detail. According to previous papers of the authors (Refs. 4, 5), boric acid first

forms a silyl hydride borate: $\text{H}-\text{Si}-\text{O}-\text{B} \leftarrow$. As boron is a strong electron acceptor, it shifts the electron density and causes protonization of hydrogen bound to Si according to the reaction $\text{XC}_6\text{H}_5 + \text{H}-\text{Si}-\text{O}-\text{B} \leftarrow \rightarrow$

\rightarrow  $\text{Si}-\text{O}-\text{B} \leftarrow + \text{H}_2$. When the aromatic ring is substituted, the silyl borate anion is added in meta position. Similar complexes as formed with boric acid are assumed for BF_3 , BCl_3 , and AlCl_3 : $\text{H}-\text{Si}-\text{Cl}-\text{MHal}_3$. The formation of such complexes is considered to be more probable than the formation $[\text{H:MHal}_3]^-$. There are 1 table and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc.

Card 4/4

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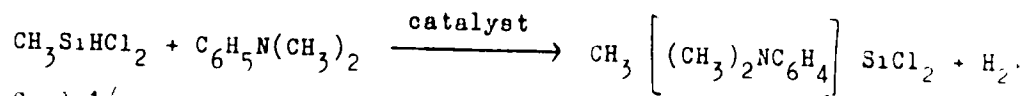
S/191/61/000/002/008/012
B124/B204

AUTHORS: Mikheyev, Ye. P., Mal'nova, G. N.

TITLE: Synthesis of methyl-(dimethylaminophenyl)-dichlorosilane by means of catalytic dehydrogenation condensation of methyl-dichlorosilane with dimethylaniline

PERIODICAL: Plasticheskiye massy, no. 2, 1961, 31-33

TEXT: For the purpose of synthesizing methyl-(dimethylaminophenyl)-dichlorosilane, the interaction of methyl-dichlorosilane with dimethylaniline was investigated and it was found that the initial substances when heated to 270°C in the autoclave dehydrogenation condensation in the presence of a catalyst, which is characteristic of chlorosilane hydride and aromatic compounds, and whereby methyl-(dimethylaminophenyl)-dichlorosilane and hydrogen are formed according to the reaction



Card 1/4

89920

Synthesis of methyl-(dimethyl...

S/191/61/000/002/008/012
B124/B204

As a catalyst, boric acid was used. Simultaneously with the given reaction, the disproportioning of the methyldichlorosilane develops, whereby mainly methyltrichlorosilane is formed. By means of side reactions, mainly the disproportioning of $\text{CH}_3\text{SiHCl}_2$, the methyl-dimethylaminophenyl)-dichlorosilane yield is decreased; it amounts to 33%. The Raman spectrum proves that within the isomer mixture the p-isomer predominates, and the m-isomer practically does not exist. The respective investigations were carried out by K. K. Popkov. The predominant forming of the p-isomer indicates that the methyldichlorosilane is dehydrocondensated with the ammonium compound of dimethylaniline and of chlorosilane, i.e. with an aromatic substance. The predominant forming of the p-isomer of methyl-(dimethylaminophenyl)-dichlorosilane is in good agreement with the classification of catalytic dehydrogenating condensation as suggested by the authors and A. L. Klebanskiy as a nucleophilic substitution of hydrogen in the aromatic ring by the silyl group. The forming of a small quantity of the o-isomer, which formally is in contradiction with the rules of orientation, is, according to the authors' opinion, due to the steric

Card 2/4

09920

Synthesis of methyl-(dimethyl...

S/191/61/000/002/008/C12

B124/B204

hindrance of the substitution in o-positions, which is caused by the highly ramified ammonium group. The conversion of the m-isomers into the ammonium form is little probable because a conjugation of all π -formations in the ammonium form of the m-isomer is impossible. The results of the rectification of the reaction products obtained are given in a table. There are 1 table and 6 references: 4 Soviet-bloc and 2 non-Soviet-bloc.

№ фракции 1	Состав фракции 2	Температура кипения, °C 3	Давление мм рт. ст. 4	Количество
				г 5
1	Смесь хлорсиланов с метилдихлорсиланом	36—39		4,35
2	Метилдихлорсилан	38—44		35,65
3	Смесь метилдихлорсилана с метилтрихлорсиланом	44—64	756	6,35
4	Метилтрихлорсилан	64—66,5		32,7
5	Промежуточная	66,5—191		8,45
6	Диметиланилин	80	11	96,15
7	Промежуточная	80—140,5	11—6	8,63
8	Метил-(диметиламинофенил)-дихлорсилан	140,5—144,5	6	76,28
9	Кубовый остаток			15,45
10	Потери			11,29

Card 3/4

89920

Synthesis of methyl-(dimethyl...

S/191/61/000/002/008/012
B124/B204

Legend to the table: Results of rectification of the mixture

1) Number of fraction; 2) Composition of the fraction; 3) Boiling point °C; 4) Pressure mm Hg; 5) Quantity of the fraction a) g, b) percentage by weight of the mixture; 6) Mixture of chlorosilanes with methylchlorosilane; 7) Methylchlorosilane; 8) Mixture of methylchlorosilane with methyltrichlorosilane; 9) Methyltrichlorosilane; 10) Transition fraction; 11) Dimethylaniline; 12) Transition fraction; 13) Methyl-(dimethyl-aminophenyl)-dichlorosilane; 14) Bottoms; 15) Losses.

№ фракции	% от веса смеси	d_{4}^{20}
1,5	—	—
12,0	1,1098	—
2,1	1,1675	—
11,1	1,2420	—
2,8	—	—
32,5	0,9628	—
2,9	—	—
25,8	—	—
5,2	—	—
4,1	—	—

Card 4/4

S/191/61/000/003/006/015
B124/B203

AUTHORS: Mikheyev, Ye. P., Asoskova, Ye. M.

TITLE: Photochlorination of methyl ethyl dichloro silane in liquid state

PERIODICAL: Plasticheskiye massy, no. 3, 1961, 26-27

TEXT: The authors chlorinated methyl ethyl dichloro silane in liquid state with chlorine gas under illumination with a 150-w electric bulb in a device described in Ref. 2 (Ye. P. Mikheyev, DAN SSSR, 108, no. 3, 484 (1956)). They obtained methyl ethyl dichloro silane by reaction of ethyl magnesium bromide with methyl trichloro silane in ethyl ether under vigorous stirring in a 57% yield referred to methyl trichloro silane. The chlorinated mixture (d_4^{20} 1.1857 and n_D^{20} 1.4450) was rectified in a column with porcelain packing material and an efficiency of 20 theoretical plates. The following fractions were obtained: (1) Initial methyl ethyl dichloro silane, 31% (by weight of the mixture); (2) intermediate, 0.8%; (3) methyl- α -chloro-ethyl dichloro silane, 24%; (4) intermediate, 6.2%;

Card 1/3

Photochlorination of methyl...

S/191/61/000/003/006/015
B124/B203

(5) methyl- β -chloro-ethyl dichloro silane, 31%; (6) intermediate, distilled off until reaching a temperature of 180°C at the outlet, 1.8%; and (7) distillation residue consisting of di- and polychloro derivatives, 5.1%. The composition of the mixture after chlorination is given in the table; it shows that the chlorination rate (rate of substitution of the first hydrogen atom) of the β -, as well as of the α -carbon atom of the ethyl group of methyl ethyl dichloro silane is several times higher than that of the carbon atom of the methyl group. The low content of di- and polychloro derivatives in the mixture confirms this assumption also for the case where the resulting chloro-methyl ethyl dichloro silane was very quickly transformed to dichloro derivatives. The yield in α - and β -isomers of methyl ethyl dichloro silane according to the table is 38 and 50%, respectively, of the reacted methyl ethyl dichloro silane. There are 1 table and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: D.T.Hurd, J.Am.Chem.Soc., 67, 1813 (1945).

Card 2/3

Photochlorination of methyl...

S/191/61/000/003/006/015
B124/B203

Table: Composition of the mixture
after chlorination.

Legend: (1) Substance, (2) content
in the mixture, (a) % by weight,
(b) mole%, (3) di- and polychloro
derivatives.

① Реципиент	② Содержание в смеси	
	③ % вес.	④ % мол.
$\text{CH}_3(\text{C}_6\text{H}_5)\text{SiCl}_2$	31,5	37
$\text{CH}_3(\text{CH}_2\text{ClCH})\text{SiCl}_2$	26	24,2
$\text{CH}_3(\text{ClCH}_2\text{CH}_2)\text{SiCl}_2$	33,5	31,5
$\text{ClCH}_2(\text{C}_6\text{H}_5)\text{SiCl}_2$	~3	~2,8
③ Ди- и полихлорзамещенные	6	4,5

Card 3/3

15.8170

4330
S/191/61/000/008/004/006
B110/B201

AUTHORS: Mikheyev, Ye. P., Filimonova, N. P.

TITLE: Synthesis of trimethyl siloxy chlorosilanes

PERIODICAL: Plasticheskiye massy, no. 8, 1961, 19.- 20

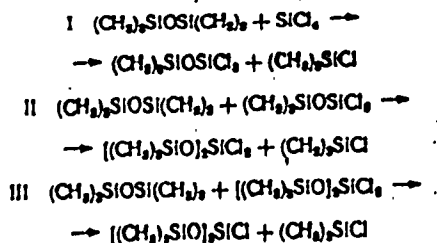
TEXT: Trimethyl siloxy chlorosilanes $[(CH_3)_3SiO]_nSiCl_{4-n}$ have not been hitherto described. For the purpose of their synthesis the authors studied the reaction of hexamethyl disiloxane with $SiCl_4$. On a temperature rise (heating in the autoclave) and at a sufficient concentration of the initial substances, the following reactions take place successively, leading to the formation of a mixture from three possible trimethyl siloxy chlorosilanes (trimethyl siloxy trichloro silane (I), bis-(tri-methyl siloxy)-dichloro silane (II), tris-(trimethyl siloxy)-chlorosilane (III)) with trimethyl chlorosilane:

Card 1/6

25598

S/191/61/000/008/004/006
B110/E201

Synthesis of trimethyl siloxy...



The possibility of substituting trimethyl siloxy groups for Cl atoms bound to Si, drops regularly with rising substitution. Experiments of an addition of small amounts of free halogens to the initial mixtures under otherwise equal conditions showed iodine and bromine to be efficient catalysts, while chlorine was found to be considerably weaker. The catalytic action of halogens evidently depends on their ability to form complexes with the chlorine anion, which causes the Si-Cl bond to split. The

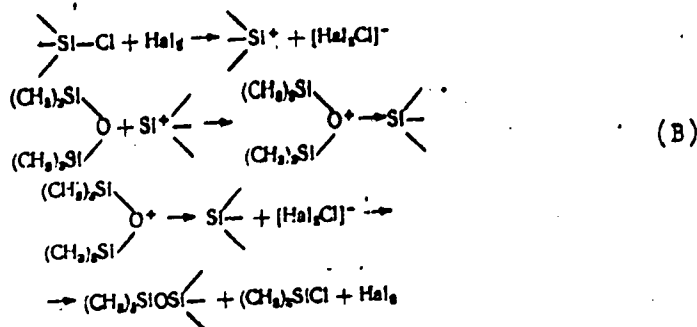
Card 2/6

25598

S/191/61/000/008/004/006
B110/B201

Synthesis of trimethyl siloxy...

reaction mechanism is described by the following scheme:



The initial substances were purified by rectification. Hexamethyl disiloxane had $d_4^{20} = 0.7640$ and $n_D^{20} = 1.3781$; SiCl_4 had $d_4^{20} = 1.4781$ and $n_D^{20} = 1.4141$. 180.54 g (1.12 g-mole) $[(\text{CH}_3)_3\text{Si}]_2\text{O}$ and 94.46 g (0.56 g mole) SiCl_4 were introduced into an autoclave of a capacity of 0.5 l, made of Card 3/6

25598

S/191/61/000/008/004/006
B110/B201

Synthesis of trimethyl siloxy...

ЭАНТ(ЕYAIT) stainless steel. The autoclave was filled to 60 % of its capacity at 20 °C. In the study of the catalytic halogen action, the given halogen amount was added to the initial mixture in the autoclave immediately before heating. Chlorine dissolved in SiCl_4 was added. The filled autoclave was heated in the polymethyl phenyl siloxane bath during 2 hr at 250 °C. After reaction, the mixtures were separated by rectification. A characteristic is the absence of initial SiCl_4 in the mixtures after the reaction. Trimethyl chlorosilane formed in a practically quantitative yield from the nonreturned hexamethyl disiloxane. Experimental results are presented in the table. Under the conditions described, the side reactions were insignificant: a gas consisting of about 0.3 l methane and some hydrogen was formed. Very small traces of elementary Si were established at the inner surface of the autoclave. By heating the mixture of equimolecular amounts of $[(\text{CH}_3)_3\text{Si}]_2\text{O}$ and $[(\text{CH}_3)_3\text{SiO}]_2\text{SiCl}_2$ in the presence of 0.4 % I_2 to 300 °C during two hours in the autoclave, the authors obtained tris-(trimethyl siloxy)-chlorosilane with 46 % yield of filled initial substances, which corresponds to 75.5 % and 81 % of nonreturned $[(\text{CH}_3)_3\text{Si}]_2\text{O}$ and

Card 4/6

25598

S/191/61/000/008/004/006
B110/B201

Synthesis of trimethyl siloxy...

$[(CH_3)_3SiO]_2SiCl_2$. The trimethyl siloxy chlorosilanes were again rectified after separation and yielded: trimethyl siloxy trichloro silane: boiling point $127.9^\circ C$; $n_D^{20} = 1.4032$; $d_4^{20} = 1.1405$; MR_D found = 47.88, calculated = 47.70. Bis-(trimethyl siloxy) dichloro silane: boiling point = $173^\circ C$; $n_D^{20} = 1.3983$; $d_4^{20} = 1.0017$; MR_D found = 66.88, calculated 66.96. Tris-(trimethyl siloxy)-chlorosilane: boiling point = $201.1^\circ C$; $n_D^{20} = 1.3941$; $d_4^{20} = 0.9219$; MR_D found = 85.93, calculated 86.22 [Abstracter's note: Essentially complete translation.] There are 1 table and 1 non-Soviet-bloc reference. The reference to English-language publications reads as follows: Ref 1: S. Maeda, E. Nojimoto, J. Chem. Soc. Japan, Industr. Chem. Sec., 62, 522, A 33 (1959).

Card 5/6

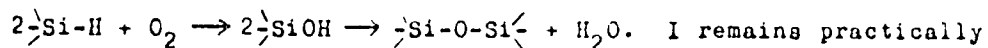
S/191/62/000/005/006/012
B110/B1C1

AUTHORS: Kleynovskaya, M. A., Sobolevskiy, M. V., Mikheyev, Ye. P.,
Mal'nova, G. N., Ginzburg, A. S.

TITLE: Purification of industrial methyl-phenyl dichloro silane
obtained by the method of catalytic dehydrocondensation

PERIODICAL: Plasticheskiye massy, no. 5, 1962, 19-22

TEXT: The composition of industrial methyl-phenyl dichloro silane (I) and its purification from impurities was studied. These are: 0.5-2% dimethyl phenyl chlorosilane (boiling point 195°C), 1-3% phenyl trichlorosilane (boiling point 201.5°C) and 1-3% compounds with hydrogen-silicon bond (methyl phenyl chlorosilane, phenyl dichlorosilane, phenyl chlorosilane etc.). Purification combines separation methods with rectification processes. When treating industrial I with dry air at 150°C, the impurities are oxidized at the SiH bond to high-boiling siloxanes, which can easily be separated from I as follows:



Card 1/2

Purification of industrial ...

S/191/62/000/005/006/C12
B110/B101

unchanged. At 150°C, air was ducted through at a rate of 350-400 liter/hr and a ratio of 4 liter air per g I. In order to separate phenyl trichlorosilane from I, partial esterification with isobutyl alcohol (5-6% of the weight of the fraction) was carried through at 40-60°C with subsequent heating to 120-150°C. Dimethyl phenyl chlorosilane was separated from I in a packed column with 25 theoretical plates. The fraction with dimethyl phenyl chlorosilane, ~26-35% of the total charge, may be used for the production of organosilicon varnishes, in the same way as I. I is then distilled off at a reflux ratio of 15-20. The residue of 3-6%, containing polysiloxanes may also be used for organosilicon varnishes. Purified I had the following characteristics:

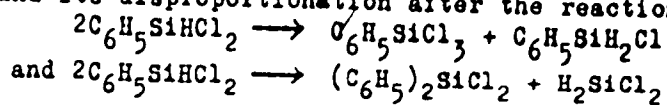
$n_D^{20} = 1.5182-1.5186$; $d_4^{20} = 1.1762-1.1782$; Cl content = 37.00-37.39%;
Si content = 14.58-14.82%, $MR_D = 49.23-49.28$. There are 3 tables.

Card 2/2

S/191/62/000/008/006/013
B124/B180

AUTHORS: Mal'nova, G. N., Mikheyev, Ye. P.
TITLE: Catalytic dehydrocondensation of phenyl dichlorosilane with benzene
PERIODICAL: Plasticheskiye massy, no. 8, 1962, 20-22

TEXT: Experiments conducted here show that the dehydrocondensation of phenyl dichlorosilane with benzene proceeds at a molar ratio of 1:3 and a temperature of at least 260°C within 4.5 hrs, the pressure rising to 90 atm. Boric acid was used as catalyst. 0.46 moles of hydrogen was released per mole of phenyl dichlorosilane. For this ratio, the yield of diphenyl dichlorosilane in the reaction products obtained after driving out the unreacted benzene and after vacuum rectification is 30% higher than with a 1:1 ratio. Dehydrocondensation of two phenyl dichlorosilane molecules and its disproportionation after the reactions:



Card 1/2

Catalytic dehydrocondensation ...

S/191/62/000/008/006/013
B124/B180

is much retarded at a molar ratio 1:3 for the components of 1:3. There are 2 tables. The two most important English-language references are: J. B. Rust, US Patent 2689860 (1954); C. A. 49, 14804 (1955); G. H. Wagner, M. M. Burnham, British patent 738541 (1955); Ind. Chem. 32, No. 374, 133 (1956). ✓

Card 2/2

S/191/62/00C/011/005/C19
B101/B186

AUTHORS: Mal'nova, G. N., Mikhayev, Ye. P.

TITLE: Synthesis of symmetrical tetramethyl-diphenyl-disiloxane-(4,4')-dicarboxylic chloride

PERIODICAL: Plasticheskiye massy, no. 11, 1962, 19

TEXT: From tetramethyl-diphenyl-disiloxane-(4,4')-dicarboxylic acid synthesized according to D. W. Lewis, G. C. Gainer (J. Am. Chem. Soc., 74, 2931 (1952)), the chloride $\text{ClOC-C}_6\text{H}_4\text{-Si(CH}_3)_2\text{-O-(CH}_3)_2\text{-C}_6\text{H}_4\text{-COCl}$, m.p. 54-55°C, was obtained in quantitative yield by reaction with thionyl chloride at 100°C within 7.5 hrs. The phenyl silicon or siloxane bonds were not ruptured.

Card 1/1

MIKHEYEV, Ye. P.; FILIMONOVA, N. P.

Exaltation of the molecular refraction of bis(trimethylsilyl)
acetylene. Zhur. ob. khim. 33 no.1:323-324 '63.
(MIRA 16:1)

(Silicon organic compounds--Optical properties)
(Acetylene compounds)

L 18952-63

EWf(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Pc-4/Pr-4 RM/WW/MAY

ACCESSION NR: AP3006536

S/0191/63/000/009/0022/0023

AUTHORS: Mikheyev, Ye. P.; Mal'nova, G. N. 1 67

TITLE: The influence of methyldichlorosilane disproportionation products on the synthesis of methylphenyldichlorosilane by the dehydrocondensation method 1

SOURCE: Plasticheskiye massy*, no. 9, 1963, 22-23

TOPIC TAGS: methylphenyldichlorosilane methyldichlorosilane disproportionation products

ABSTRACT: The presence of methyldichlorosilane disproportionation products boiling in the 44-78C range in the composition of the starting material increases the yield of methylphenyldichlorosilane in its boric acid (GOST 2629-44) 15 catalysed dehydrocondensation of methyldichlorosilane with thiophene-free benzene. Orig. art. has: 2 tables, 2 equations.

1/1/

Card

L 22650-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4/Pi-4 RM/MLK

ACCESSION NR: AT5002129

S/0000/64/000/000/0168/0169

AUTHOR: Mikheyev, Ye. P.; Popov, A. F.; Filimonova, N. P. B+1

TITLE: Photochlorination of methylchlorosilanes in the liquid phase with preferential formation of monochloroderivatives

SOURCE: AN SSSR. Institut neftekhimicheskogo sinteza. Sintez i svoystva monomerov
(The synthesis and properties of monomers). Moscow, Izd-vo Nauka, 1964, 168-169

TOPIC TAGS: chlorosilane, silicoorganic compound, photochlorination, continuous chlorination

ABSTRACT: The photochlorination of liquid methyltrichloro-, dimethyldichloro-, and trimethylchlorosilanes was studied under laboratory conditions to optimize both the yield of monochloroderivatives and safety factors. The continuous chlorination apparatus consisted of a quartz reactor with a PRK-8 mercury vapor lamp and a distillation column with an efficiency of 12 theoretical plates to remove oxygen from the feed and to separate the products from nonreacted methylchlorosilanes. The latter were recirculated, and the products separated on a second column with a separation efficiency of 15 theoretical plates. The yield of monochloroderivatives was 70-94%. Orig. art. has: 1 table.

Card 1/2

L 22650-65

ACCESSION NR: AT5002129

ASSOCIATION: None

SUBMITTED: 30Jul64

ENCL: 00

SUB CODE: OC, Gc

NO REF SOV: 003

OTHER: 001

Card

2/2

MAL'NOVA, G.N.; MIKHEYEV, Ye.P.

Synthesis of silicon-containing arylcarboxylic acid chlorides. Zhur.
ob.khim. 34 no.2:617-618 F '64. (MIRA 17:3)